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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/840,924 | 04/25/2001 | David A. Jackson | 10473-670 | 6504 |

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MCDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

NGUYEN, THU V

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| ART UNIT | PAPER NUMBER |
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3661

DATE MAILED: 06/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,924

Applicant(s)

JACKSON ET AL.

Examiner

Thu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,6,8-10,12-16,20,22 and 24-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9,10,12,25 and 26 is/are allowed.
- 6) ☒ Claim(s) 4,6,8,13,14,16,20,22,24,27,29,30 and 32 is/are rejected.
- 7) ☒ Claim(s) 15,28 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 16. 6) ☐ Other: _____

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DETAILED ACTION

The amendment filed on April 2, 2003 has been entered. By this amendment, claims 3, 11, and 19 have been canceled, and claims 4, 6, 8-10, 12-16, 20, 22, 24-32 are now pending in the application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4, 6, 8, 13-14, 16, 20, 22, 24, 27, 29-30, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over January (US 5,675,515) in view of Christian et al (US 5,220,399).

As per claim 4, 6, 8, 13-14, 16, 20, 22, 24, 27, 29-30, 32, January discloses a method and system for determining alignment between wheels of a vehicle in which images of the targets are obtained; the front and rear wheel tracks are defined; the left and right wheel bases are determined (fig.10; col.16, lines 61). January does not teach calculating the first and second diagonals, and determining the alignment of the wheels based on the length of the wheel tracks, the wheel bases, and the diagonals or the skew angles. However, Christian teaches determining

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the diagonals between the position relative to the wheel position and determining alignment status of the wheels based on the length of the wheel tracks, wheel bases, and the diagonals or the skew angles 4, 3, 5 (fig.5) (col.9, lines 1-13, col.6, lines 36-46; col.11, lines 11-20, lines 44-51). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to compare the length of the wheel tracks, the wheel bases, and the diagonals connecting the wheel positions in order to facilitate quick judgement of misalignment of the wheels.

Allowable Subject Matter

3. Claims 9-10, 12, 25-26 are allowed.
4. Claims 15, 28 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is an examiner's statement of reasons for allowance:

Prior art of record does not disclose a method and system for determining alignment between the wheels of a vehicle in which the positions of the wheels are determined by imaging the targets indicating the position of the wheels; the front and rear wheel track, the front and rear center point of the front and rear wheel track are determined, the interception point of a line from a one center point of the wheel track and perpendicular to the wheel track with the other wheel track is determined and the offset between the interception point and the center point of the intercepted wheel track is calculated as taught in claims 9, and 25. Prior art of record, further,

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does not disclose calculating the first diagonal between the right front wheel and the left rear wheel, and the second diagonal between the left front wheel and the right rear wheel, the relationship between the front and rear wheel can be determined by comparing the difference between the first and the second diagonals to a specified range for the difference as taught in claims 12, and 28. Prior art of record, further, does not disclose calculating the first and second skew angles, and determining the relationship between the front and rear wheels by comparing the difference between the first and second skew angle to a specified range for the difference as taught in the combination of claims 1, 11, 14-15.

Response to Arguments

6. Applicant's arguments with respect to claims 4, 6, 8, 14, 20, 22, 24, 27, and 30 have been considered but are moot in view of the new ground(s) of rejection. Further, in response to applicant's argument on page 12, first paragraph, in col.16, lines 48-56, January teaches that the wheelbase 111, and 112 (fig.10) are parallel to the center line 96, January, further, teaches that the center line 96 is perpendicular to the track width 113, therefore, according to the well known rule of geometry, the wheelbase 111, 112 will be perpendicular to the track width line 113.

Note that the indicated allowable claims 13, 16, 29, and 32 in the final rejection office action (paper No. 15 on January 16, 2003) has been withdrawn in view of the newly found reference (US 5,220,399).

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
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or faxed to:

(703) 305-7687, (for formal communications intended for entry)

Or:

(703) 305-7687 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park V, 2451 Crystal Drive,
Arlington, VA., Seventh Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner
should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The examiner
can normally be reached on Monday-Thursday from 8:00 am to 6:00 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, William Cuchlinski, can be reached on (703) 308-3873. The fax phone number for
this Group is (703)305-7687 .

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Group receptionist whose telephone number is (703)308-1111.



Thu Nguyen

June 10, 2003